



Capital Investment Plan

Real Estate Investment Plan

10-Year Capital Plan

Making Headway

Progress, Priorities and Plans

2022-2036

December 20, 2021

The TTC has made significant headway since 2019.

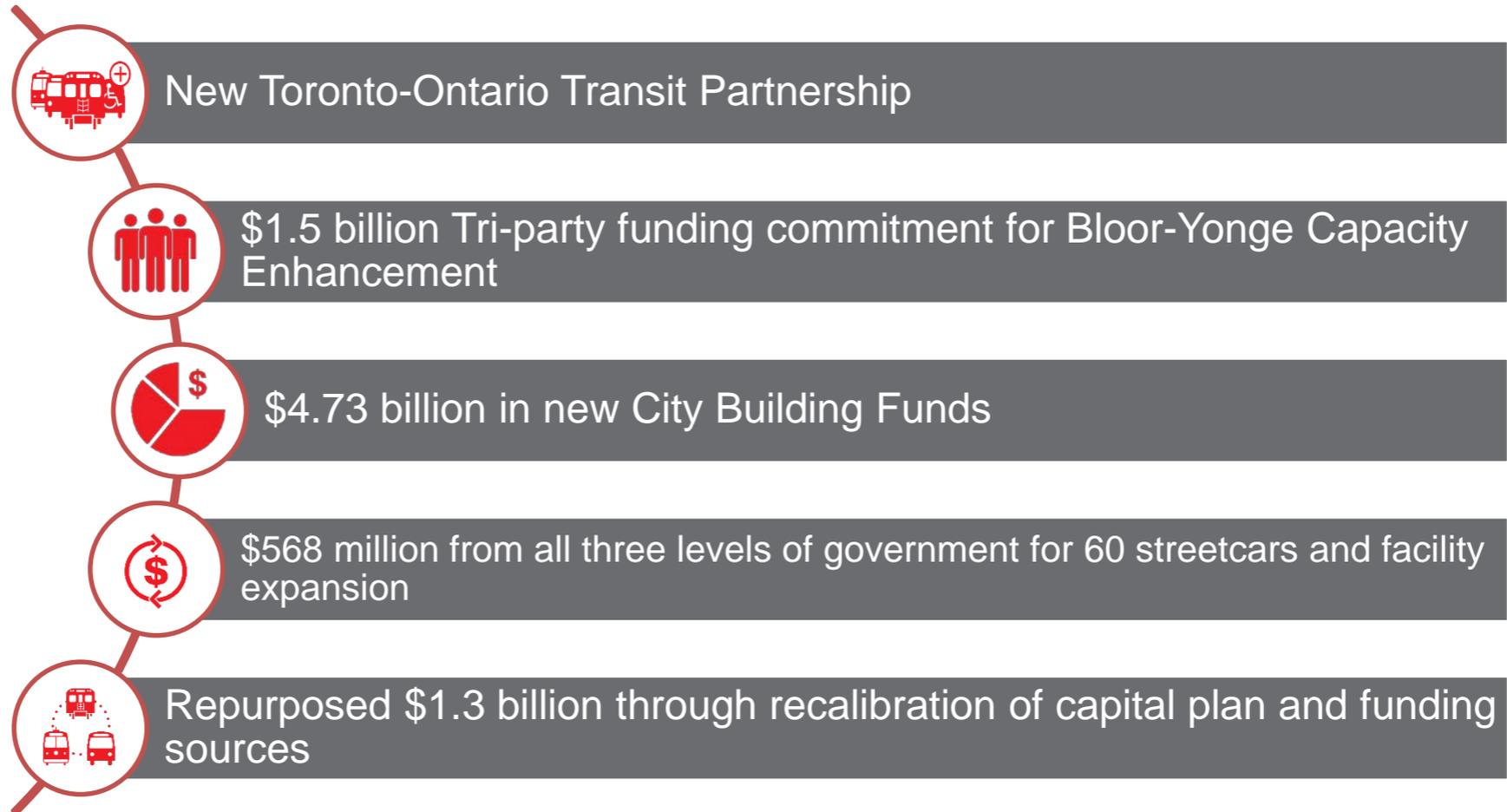
But if we don't continue to secure the funding needed to maintain our system, the future is at risk.

This presentation provides an overview of:

- Progress since 2019**
- 15-year base capital needs (current system without transit expansion)**
- Capital Funding Priorities**
- Introduction to first-ever TTC real estate investment plan**
- 2022-2031 Capital Budget & Plan**



Funding Progress Since 2019



New funding is making possible....



Enhanced Bloor-Yonge Station
\$1.5B



60 New streetcars
\$468M



Hillcrest Streetcar Storage
\$100M



New hybrid & electric buses
\$686M



Electric bus charging
\$64M



Line 2 Automatic Train Control
\$623M



New funding is making it possible *to start...*



Line 1 Capacity Enhancement
\$1.49B



Line 2 Capacity Enhancement
\$817M



New subway trains
\$623M*



Other SOGR projects
\$158M

*Funding insufficient to proceed with procurement



Long-term investment in the TTC is as critical as ever

For our customers...

- Safe, seamless, reliable transit
- Inclusive, accessible service
- Resiliency to meet future demand
- A financially sustainable transit system

For our City...

- Healthy, economic recovery
- Future GTHA growth
- Climate action to meet ambitious targets
- A financially sustainable and more equitable City

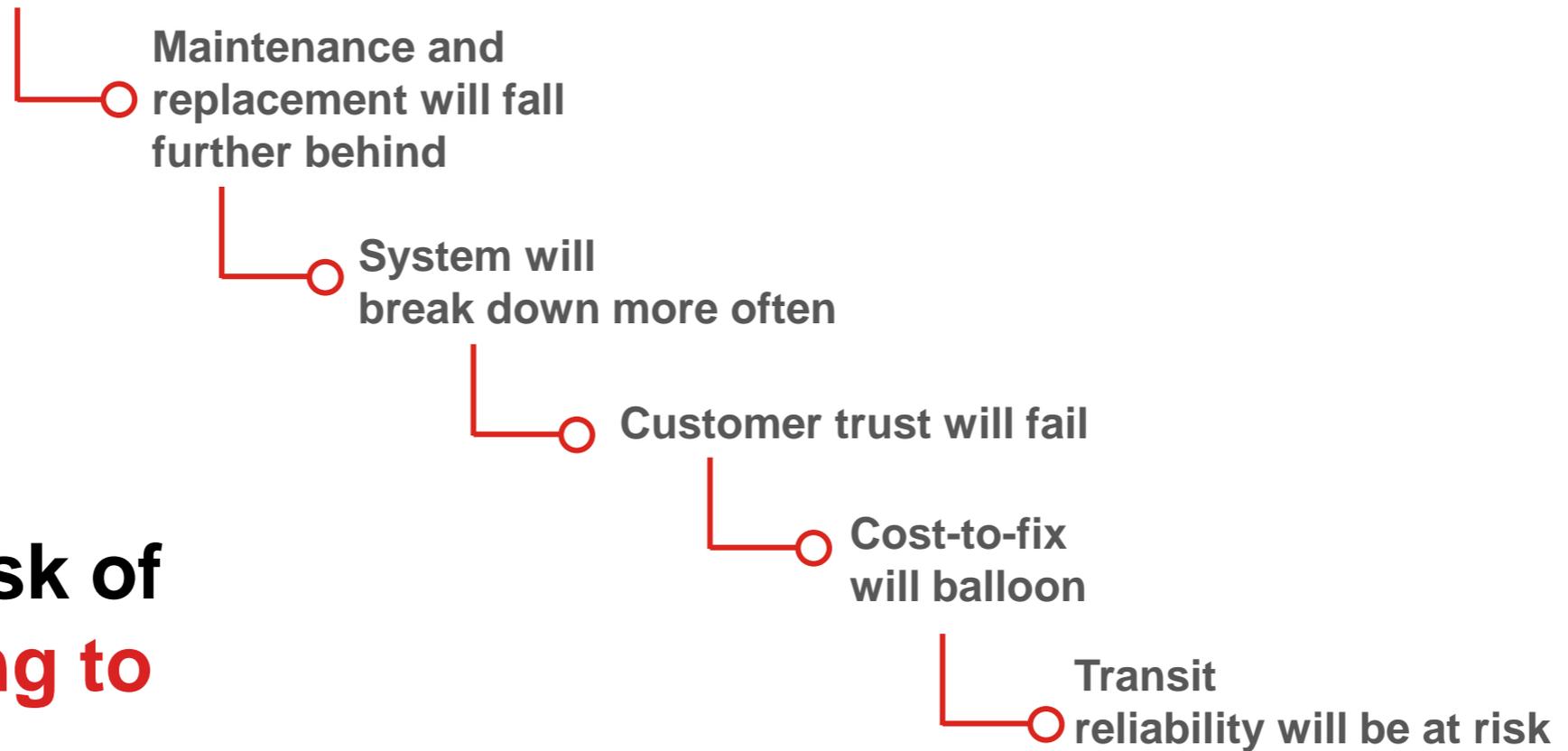


The pandemic revealed that public transit is essential for keeping our city moving, through good times and bad.

For the sake of Toronto's health and prosperity, we must keep investing in the future.

The Risk of Not Investing

If we don't invest
in a timely manner

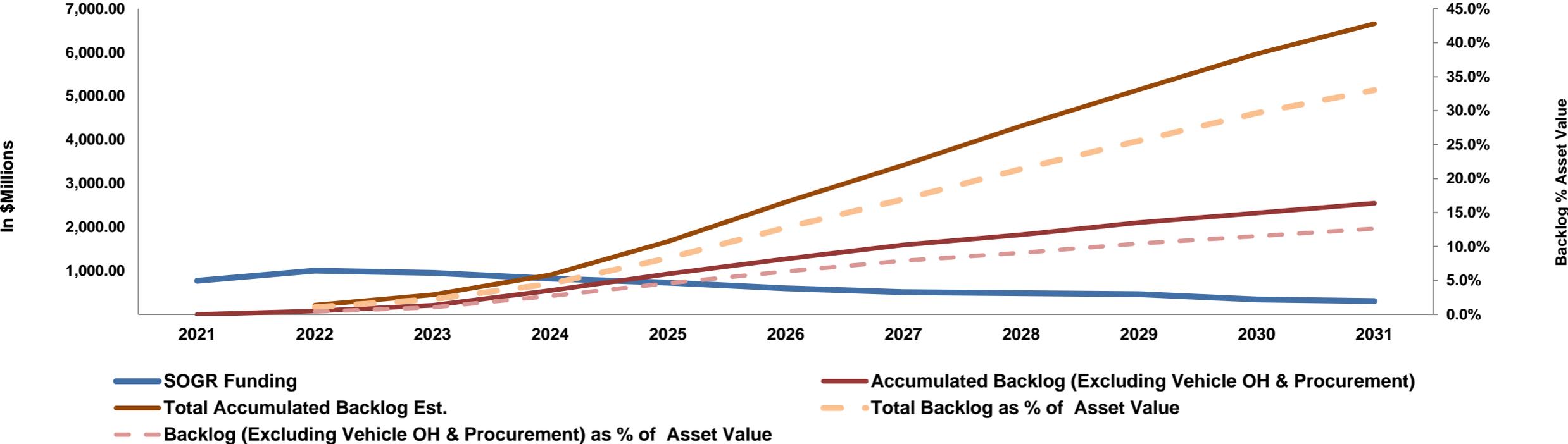


What's the risk of
**not continuing to
invest?**



Growing State-of-Good Repair Backlog

Without funding, the State-of-Good-Repair backlog will grow to **12.8% of total asset value by 2026**. By 2031, it could reach **33%**.



Investments must advance in lockstep

To get the most from transit investments, they must advance on four fronts in a coordinated way. If there is investment in one category, but others fall behind, the entire system is weakened.



Investments must advance in lockstep

A number of priority projects remain unfunded in the CIP

Most represent critical interdependencies that, if delayed, would jeopardize a larger program of investment.

Modernizing the Subway & Expanding Capacity		Funding Required	
Purchase subway trains		\$1.7B	by 2022
Modify Greenwood Yard		\$95M	by 2023
Maintenance & Storage Facility		\$2.1B	by 2023
Supporting a Larger Streetcar Fleet			
Renew Russell Carhouse		\$71M	by 2024
Upgrade overhead power		\$19M	by 2023
Maximize Hillcrest Complex		\$3M	by 2023
Transforming & Electrifying Bus Service			
Purchase electric buses		\$1.6B	by 2022
Purchase Wheel-Trans buses		\$174M	by 2022
Install charging infrastructure		\$468M	by 2022
Implement transit priority measures		\$356M	by 2023
Upholding the State-of-Good-Repair			
Scheduled fleet maintenance		\$1.2B	by 2023
Safety and legislative		\$39M	by 2023
System maintenance		\$7M	by 2023
Operational infrastructure		\$119M	by 2023



Modernizing the Subway & Expanding Capacity



**We need 80
new subway trains...**

**Immediate
Funding Required
\$1.7 billion**

**Fund by
2022**

**Deliver by
2026-2030**



**So we need to modify
Greenwood Yard...**

**Immediate
Funding Required
\$95 million**

**Fund by
2023**

**Deliver by
2028**



**And add storage in time for
the delivery of trains**

**Immediate
Funding Required
\$2.1 billion**

**Fund by
2023**

**Deliver by
2030**

Supporting a Larger Streetcar Fleet



**We need to renew
Russell Carhouse**

**Immediate
Funding Required
\$71 million**

**Fund by
2024**

**Deliver by
2027**



**As we continue to upgrade
overhead power...**

**Immediate
Funding Required
\$19 million**

**Fund by
2023**

**Deliver by
Ongoing**



**And maximize use of
Hillcrest Complex...**

**Immediate
Funding Required
\$3 million**

**Fund by
2023**

**Deliver by
2025**

Transforming & Electrifying Bus Service



We need to procure 1,226 all-electric buses...

Immediate Funding Required
\$1.6 billion

Fund by
2022

Deliver by
2022-2031



We need to procure 382 Wheel-Trans buses...

Immediate Funding Required
\$174 million

Fund by
2022

Deliver by
2023-2031



Which will require charging infrastructure...

Immediate Funding Required
\$468 million

Fund by
2022

Deliver by
2023-2031



While cutting through congestion on the city's busiest bus routes.

Immediate Funding Required
\$356 million

Fund by
2023

Deliver by
Ongoing



Upholding State-of-Good-Repair

Fleet Overhauls



Scheduled maintenance and overhaul of 145 subway cars annually

Immediate Funding Required
\$579 million by 2023



Scheduled maintenance on 30 streetcars annually

Immediate Funding Required
\$148 million by 2024



Overhaul up to 205 buses annually

Immediate Funding Required
\$473 million by 2024



Upholding State-of-Good-Repair

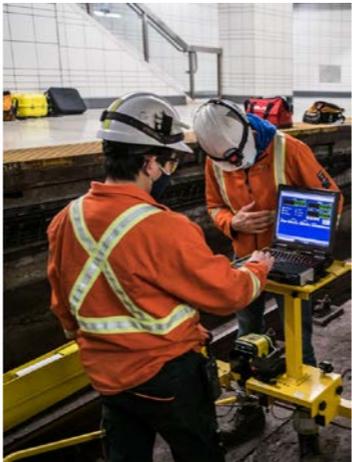
Infrastructure



Safety & Legislated Improvements

Greenwood firemain
Storage tanks
Platform ventilation

Immediate Funding Required
\$39 million by 2023



System Maintenance

Subway track
Streetcar track
Traction power & cables
Escalators & elevators
Communications system

Immediate Funding Required
\$7 million by 2023



Operational Infrastructure

Facility maintenance
Non-revenue vehicles
IT infrastructure

Immediate Funding Required
\$119 million by 2023



If buses, subways, and streetcars are Toronto's circulatory system, then our real estate portfolio is the backbone.

On Solid Ground: A strategic approach to real estate

The TTC's first ever 15 year real-estate investment strategy and plan.



Key Features

- Companion document to the Capital Investment Plan
- Sets strategic direction for the planning and management of TTC's real estate portfolio
- Establishes property-focused strategies, objectives and priorities
- Provides a roadmap for TTC and City partners to ensure TTC needs are known, met and integrated into City-building initiatives
- Provides a 15-year Implementation Action Plan and Timeline that maps out property timing and other actions
- Identifies funding status, consistent with the Capital Investment Plan.

Strategic Outcome

A strategically planned, optimized and managed real estate portfolio that meets TTC's current needs and ensures sustainable growth.

Investment Principles

Optimize use before acquiring.

Acquire before expropriating.

Own rather than lease.

Uncouple acquisition from construction.

Include “back of house” needs.

Integrate resiliency

Be flexible, sustainable and innovate.

Maximize value-creation with the City

TTC real estate strategy must navigate a range of complex considerations

Toronto real estate is expensive, with fractured ownership and adjacent use sensitivities

Maximizing use may require substantial redesign and construction, which cannot negatively impact service

Approvals, design, financing, and construction require long lead-times (often 10+ years)

Facilities must be large and spread throughout City to minimize deadheading costs

Timing and cost must meet service delivery deadlines and budgets

Approval process for property acquisition limits ability to nimbly participate in private-sector deals

Must balance with competing City mandates

Size and type of property needed appear infrequently on open market

Real Estate Investment Plan

A wide-ranging real estate portfolio



Facilities

- 9 garages
- 3 streetcar shops
- 3 streetcar carhouses
- 5 subway yards
- 1.3 million square feet of industrial space



System Network

- 75 subway stations
- 69 traction power substations
- 27 bus/streetcar loops
- 73 3rd party entrance connections to subway
- 9500+ bus and streetcar stops



Office Space

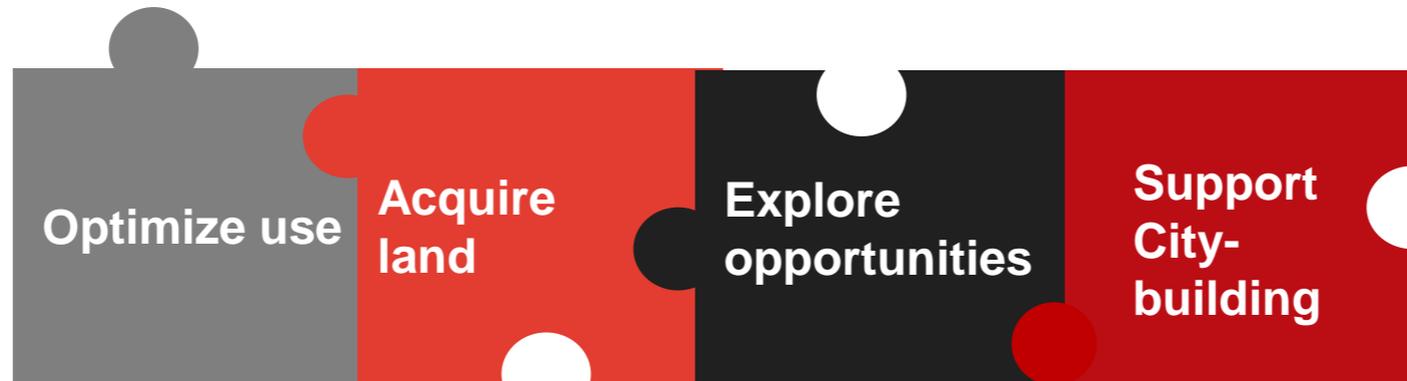
- Headquarters at 1900 Yonge Street at Davisville
- 9 leased facilities across the city



Real Estate Investment Strategy

Real estate decisions must be carefully coordinated to support the current and future needs of the TTC and the City.

Core Strategies



Facilities Plan

How can our real estate strategy provide a network of fully-utilized, safe facilities across the city to house, maintain, and support our fleet?

By optimizing existing facilities prior to acquiring new ones.

Highlights

Optimize existing

- Greenwood & Davisville Yards,
- Wilson Complex
- eBus charging systems

Acquire land

- Train maintenance and storage facility (Northern Yard)
- 10th garage

Support City-building

- Vacate Danforth Garage to enable HousingNow development

Explore Opportunities

- Maximize Hillcrest Complex



System Plan

How can our real estate strategy enable a safer and more accessible network of stations, stops, and bus and streetcar loops that can meet the needs of a changing fleet?

By working closely with third party developers and acquiring property in anticipation of future needs.

Highlights

Acquire land

- Easier Access III (AODA compliance) & Second Exits
- Bloor-Yonge Station expansion
- Streetcar loops
- Waterfront East LRT

Support City-building

- Transition commuter parking to support City redevelopment
- New bus depots at Warden and Islington stations for accessible connections and HousingNow projects



Office Space Plan

How can our real estate strategy efficiently provide modern, fit-for-purpose office space that meets varied needs?

By consolidating corporate office space as part of ModernTO, eliminate the use of long-term leased space and transforming TTC's office culture.

Highlights

Support City-building

- Transfer 1900 Yonge to enable highest and best use and value creation by CreateTO
- Consolidate into City Centres shared with municipal services

Explore Opportunities

- Long-term solution for Transit Enforcement and Revenue Protection staff



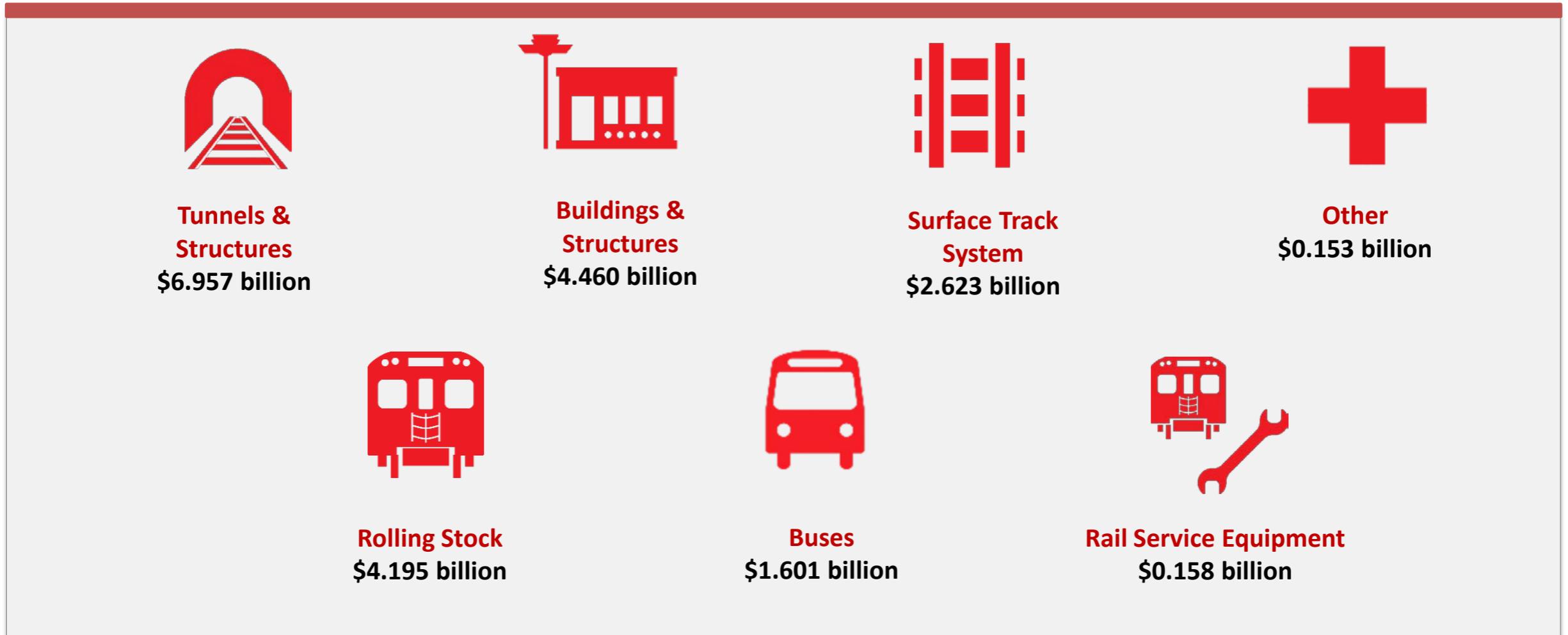
REIP Next Steps





**2022-2031
Capital Budget
& Plan**

\$20.15 B Capital Asset Inventory to Deliver Services



2022-2036 Capital Investment Plan: Update

2021 vs. 2022 Capital Investment Plan Comparison By Category									
	2021-2035			2022-2036			Change		
Description (\$ Billions)	Years 1-10	Years 11-15	15 Year Total	Years 1-10	Years 11-15	15 Year Total	Years 1-10	Years 11-15	15 Year Total
Health & Safety/Legislated	1.11	0.06	1.17	1.34	0.03	1.37	0.23	(0.03)	0.20
State of Good Repair	13.19	8.49	21.68	12.87	5.00	17.87	(0.32)	(3.49)	(3.81)
Growth/Service Improvement	7.96	6.96	14.92	9.10	8.88	17.98	1.14	1.92	3.06
Total Base Program	22.26	15.51	37.77	23.31	13.91	37.22	1.05	(1.60)	(0.55)

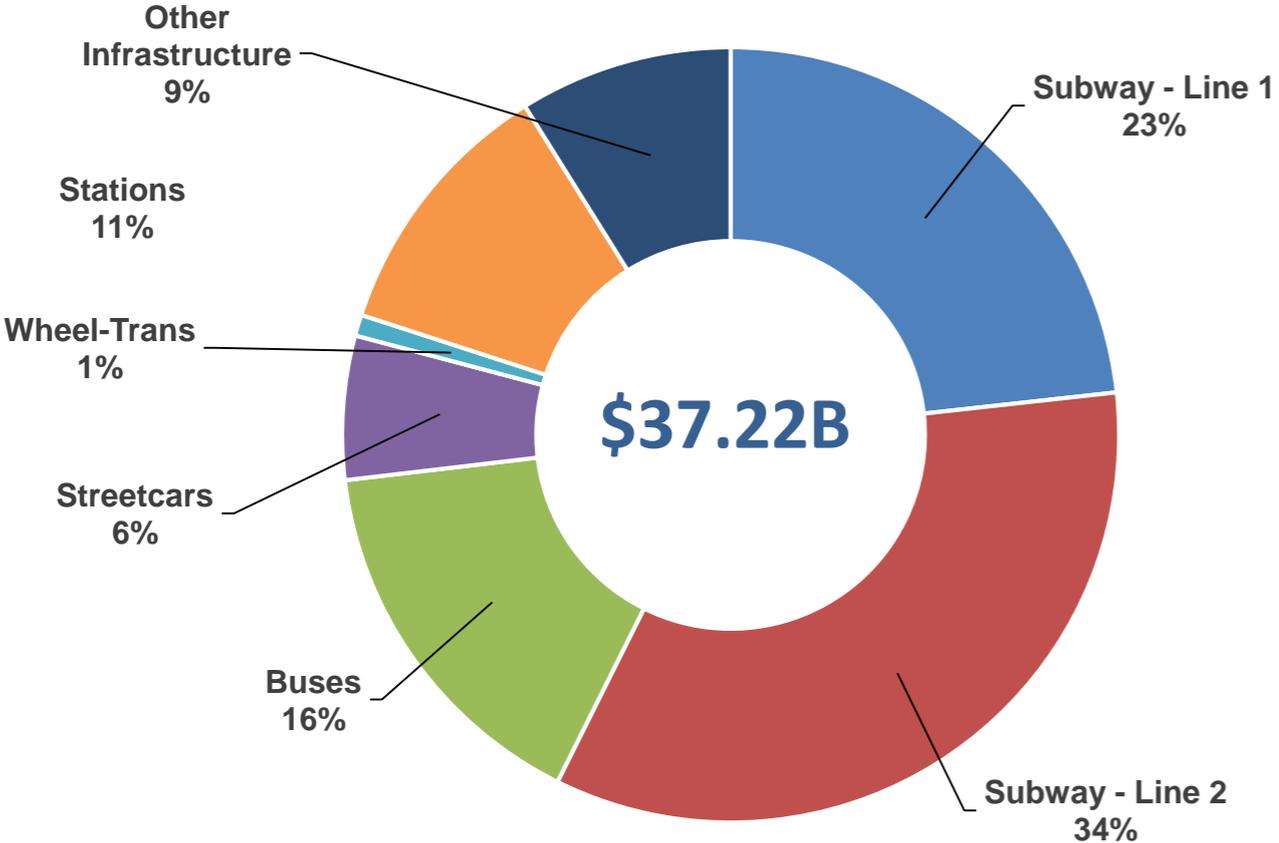
Key Changes:

- Russell Carhouse Modifications & Extension
- Non-Revenue Vehicle Electric Charge Systems
- Line 1 and 2 Capacity Enhancement projects
- New Streetcar Maintenance & Storage Facility
- Leslie St. Second Exit

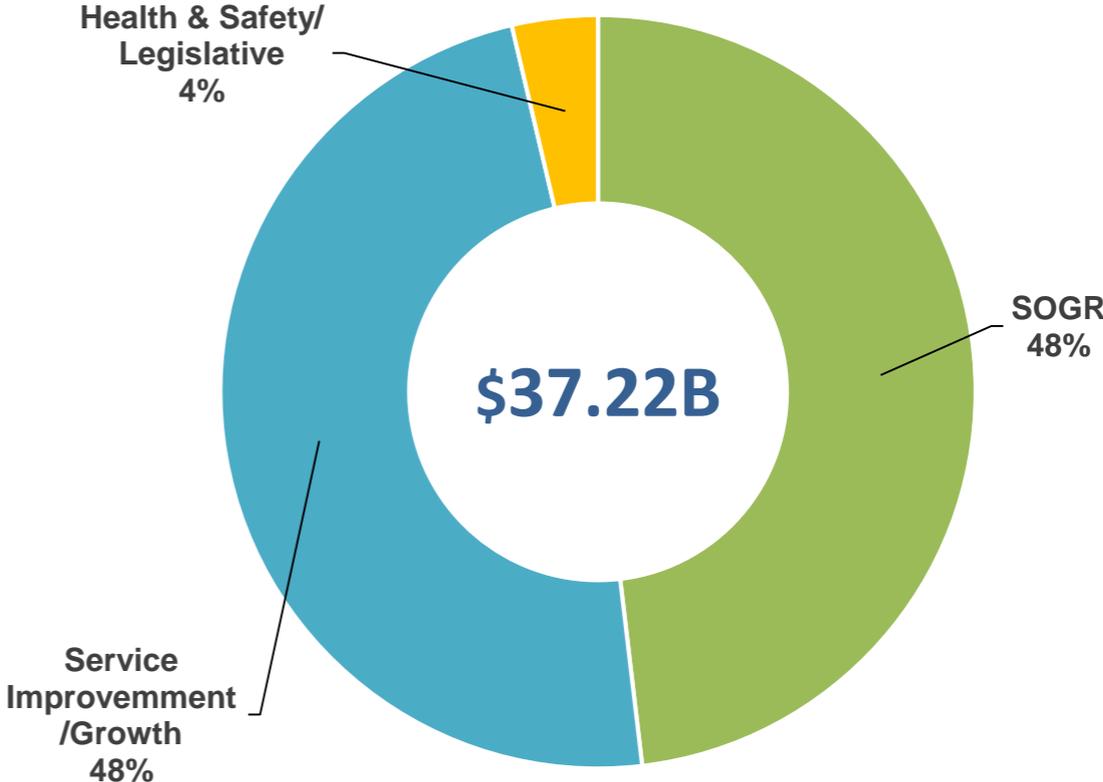


2022-2036 Capital Investment Plan: Overview

15 Year Capital Investment Plan By Mode



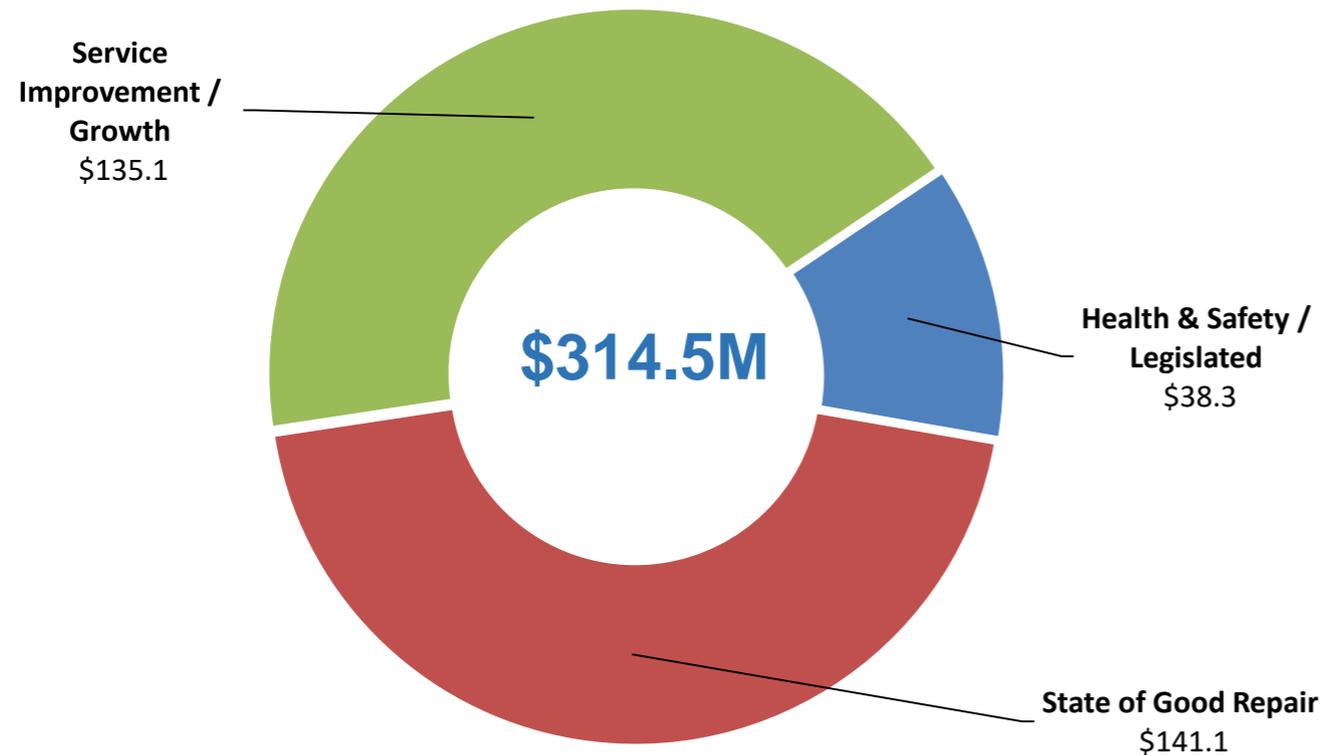
15 Year Capital Investment Plan By Category



2022 Capital Process: Results

Reinvestment in Critical Projects by Project Category

(\$ millions)



Funded Projects Include:

- Russell Yard & Carhouse Modifications & Extension
- Bus Mid-Life Overhaul activities
- Property acquisition required for a tenth garage and operational needs
- Storage Tank Replacements project.



2022-2031 Capital Budget & Plan: Key Highlights



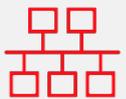
Total Capital Budget and Plan is \$12.1 billion, \$8.9 billion (74%) relates to 27 major projects/programs:

- Making progress on delivering the fleet procurement strategy for the deliver of 60 Streetcars, 300 hybrid & 300 e-buses as well as 70 Wheel-Trans buses
- Continues to advance work on three major capacity improvement projects (Bloor-Yonge, Line 1 & 2)
- Completion of ATC Line 1 and full funding for ATC Line 2



Maintains steady state funding for essential safety and SOGR capital work to ensure safety and reliability of our system

Ensures funding to meet legislative requirements and timelines



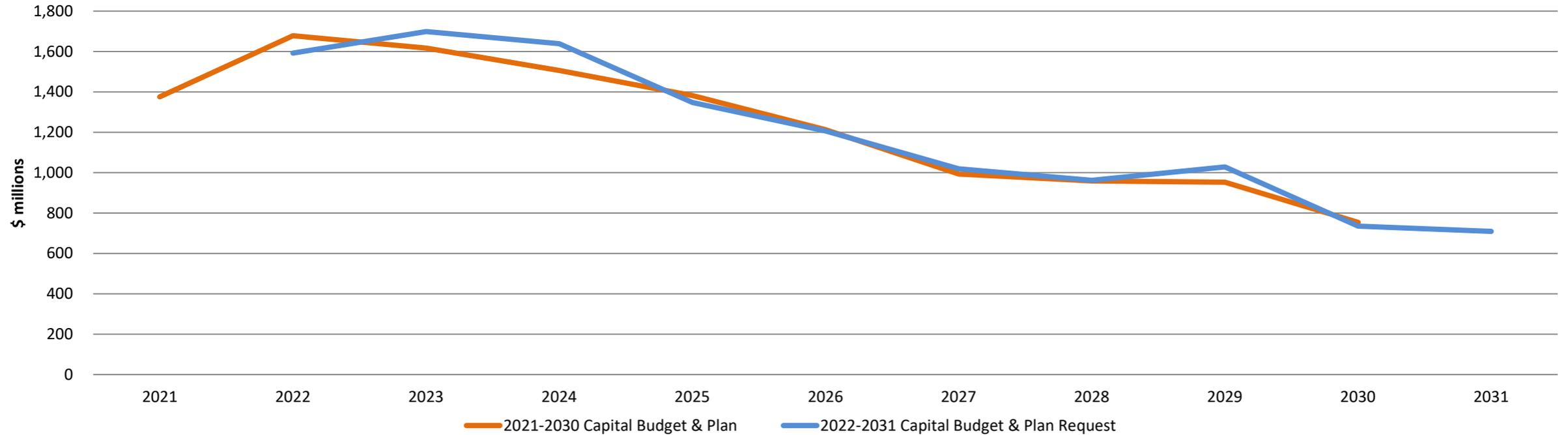
Continues business modernization:

- SAP; Maximo; Vision, Wheel Trans and Stations Transformation



Builds capacity within our major projects/programs to enhance coordination of activities and resourcing

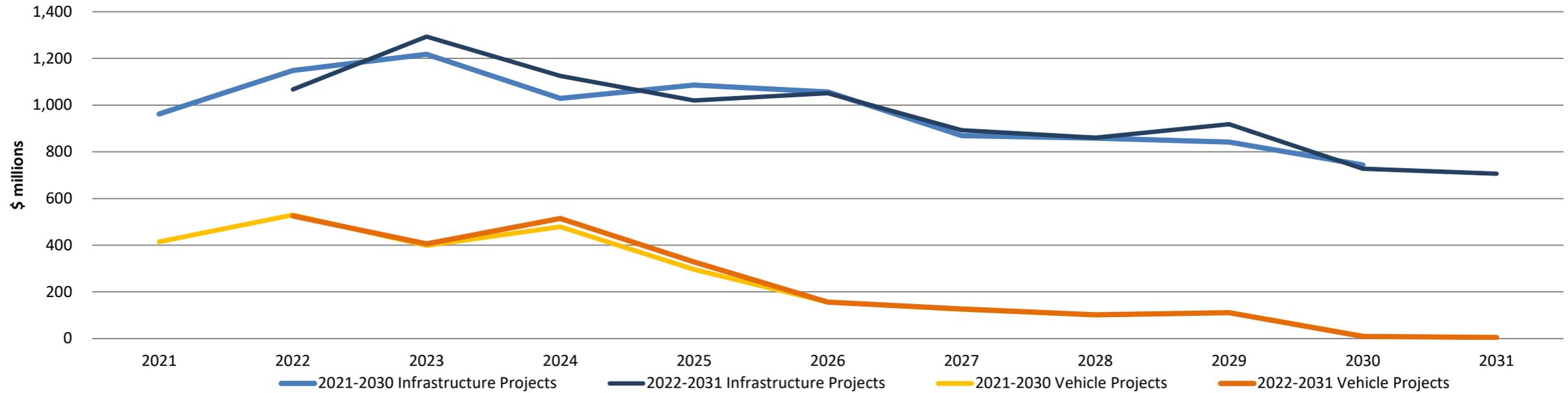
2022-2031 Capital Budget & Plan vs. 2021 Comparison



2021 - 2030 vs. 2022 - 2031 Capital Budget and Plan												
(\$ Millions)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	10-Year Total
2021-2030 Capital Budget & Plan	1,376	1,678	1,617	1,507	1,382	1,213	994	959	953	754		12,433
2022-2031 Capital Budget & Plan Request		1,698	1,702	1,639	1,348	1,207	1,019	963	1,029	736	710	12,051
Change	(1,376)	20	85	132	(34)	(6)	25	4	76	(18)	710	(382)
Change over Nine Common Years		20	85	132	(34)	(6)	25	4	76	(18)		284
Change %		1%	5%	9%	-2%	0%	3%	0%	8%	-2%		2%



2022-2031 Capital Budget & Plan: Infrastructure vs. Vehicle



2022 - 2031 Capital Budget and Plan												
(\$ Millions)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	10-Year Total
2021-2030 Infrastructure Projects	965	1,147	1,216	1,029	1,085	1,057	869	858	841	744		9,811
2022-2031 Infrastructure Projects		1,173	1,296	1,125	1,020	1,051	892	861	918	727	706	9,769
Variance	(965)	26	80	96	(65)	(6)	23	3	77	(17)	706	(42)
Total Change in Nine Common Years										217		

2022 - 2031 Capital Budget and Plan												
(\$ Millions)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	10-Year Total
2021-2030 Vehicle Projects	411	531	401	478	297	156	125	101	112	10		2,622
2022-2031 Vehicle Projects		525	406	514	328	156	127	102	111	9	4	2,282
Variance	(411)	(6)	5	36	31	0	2	1	(1)	(1)	4	(340)
Total Change in Nine Common Years										67		



Major Programs: 10-Year Capital Budget & Plan

\$ 12,051.40 M



Buildings & Structures

\$3,332.85 M
28%

Fire Ventilation Upgrade
Easier Access Phase III
Toronto Rocket/T1 Rail Yard
Accommodation



Signal systems

\$935.80 M
8%

Signal Systems
Line 1 and 2 Automatic
Train Control Re-signaling



Track work

\$812.52 M
7%

Subway Track
Surface Track
Subway Rail Grinding



Electrical systems

\$565.35 M
5%

Traction Power
Power Distribution /
Electric Systems
Communications



Capacity Improvements

\$3,419.16 M
28%

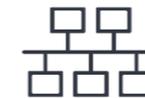
Bloor-Yonge Capacity
Improvements
Line 1 & 2 Capacity
Enhancements



Vehicles

\$2,237.40 M
19%

T1 25-Year Overhaul
Bus Overhaul
Streetcar Overhaul
Purchase of additional vehicles



Information Technology

\$332.66 M
3%

SAP ERP Implementation
VISION – Computer Aided Dispatch /
Auto. Vehicle Location System
MAXIMO – Asset management system



Equipment & Other

\$415.66 M
3%

Shop & Maintenance Equipment
Revenue & Fare Handling
Equipment
Fare System

How the Capital Program is Funded

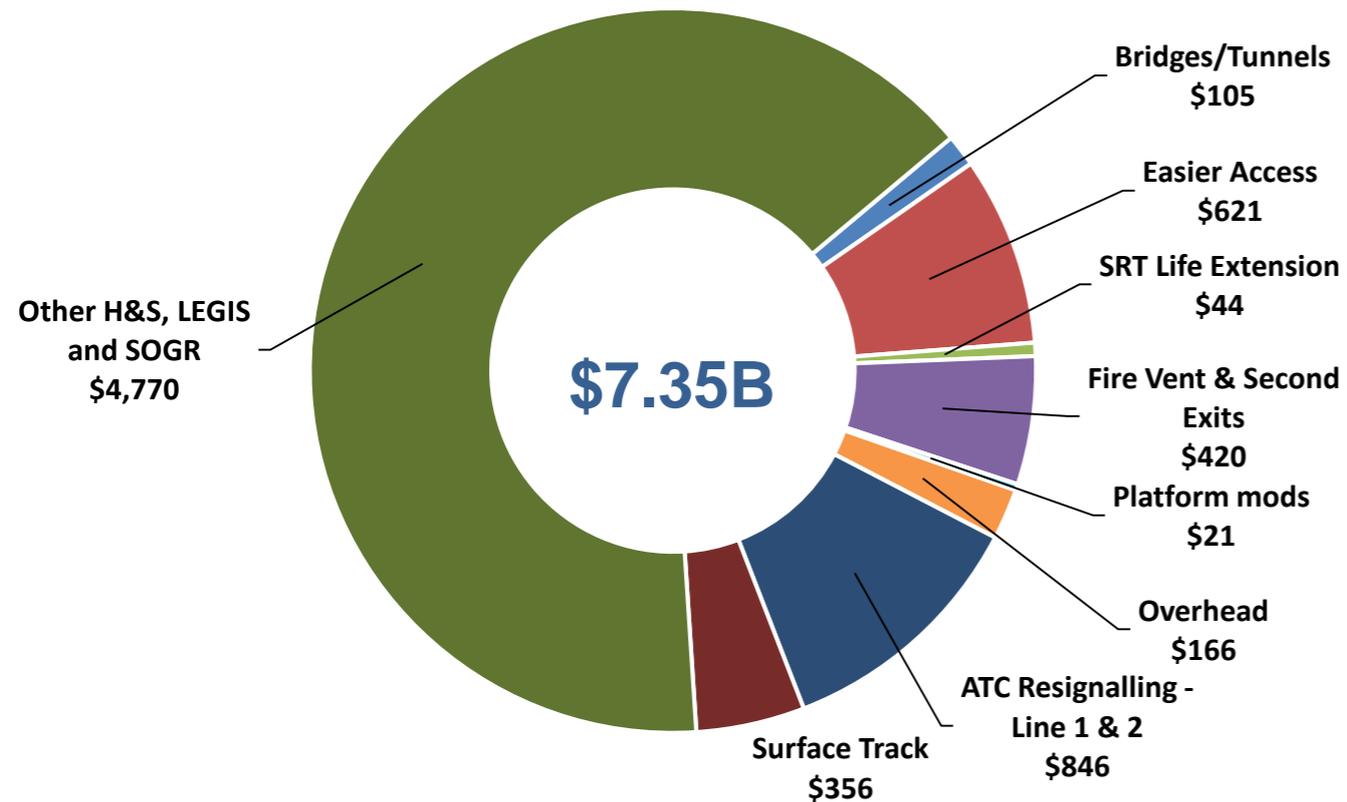
\$ 12,051.40 M

City of Toronto Funding		Provincial Funding		Federal Funding	
7,831.60 65%		1,589.45 13%		2,630.35 22%	
City Building Fund	6,186.79	PTIF	500.00	PTIF	500.00
Debt	882.49	Provincial Gas Tax	936.01	Federal Gas Tax	1,976.91
Development Charges	538.03	Other	153.44	Other	153.44
TTC Internal (Depreciation)	134.03				
Reserve Draws	75.26				
Other	15.00				

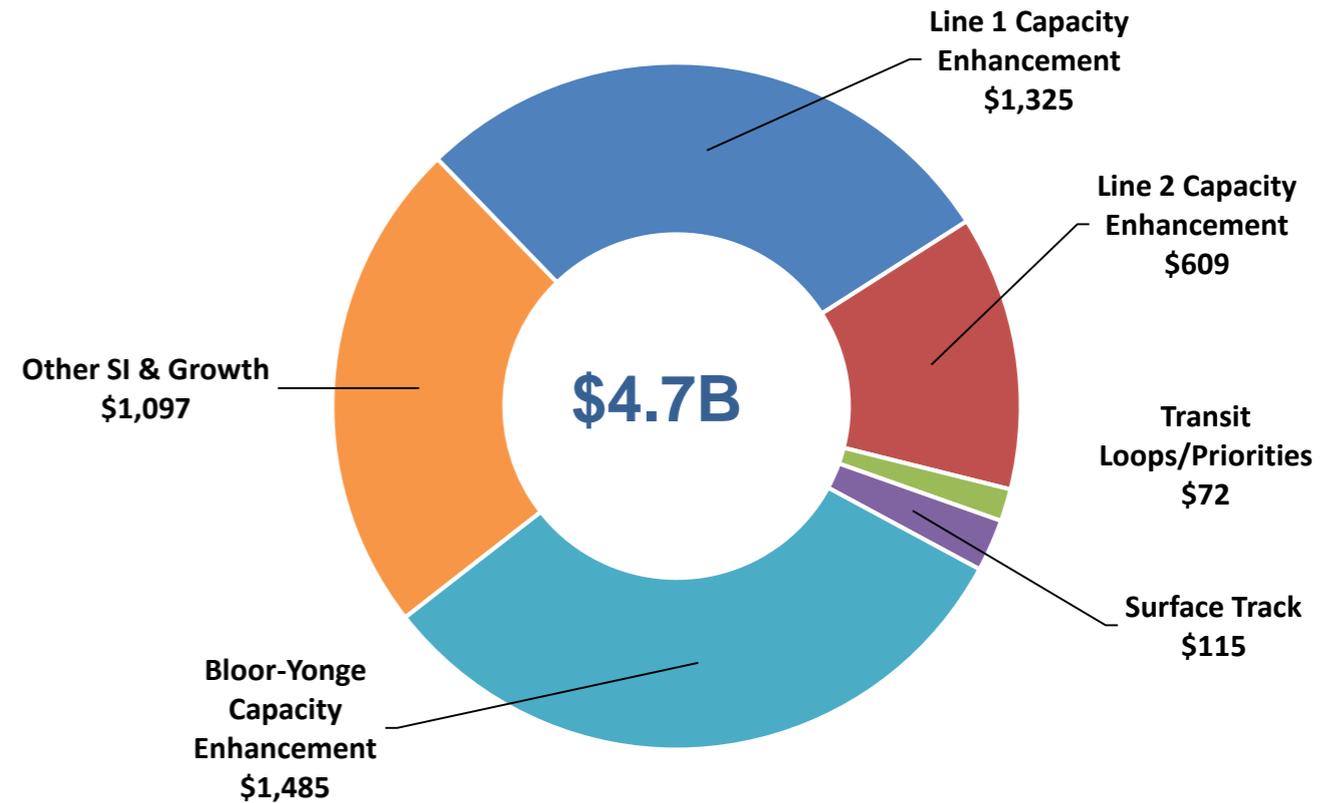


Building Up Capacity for Capital Project Delivery

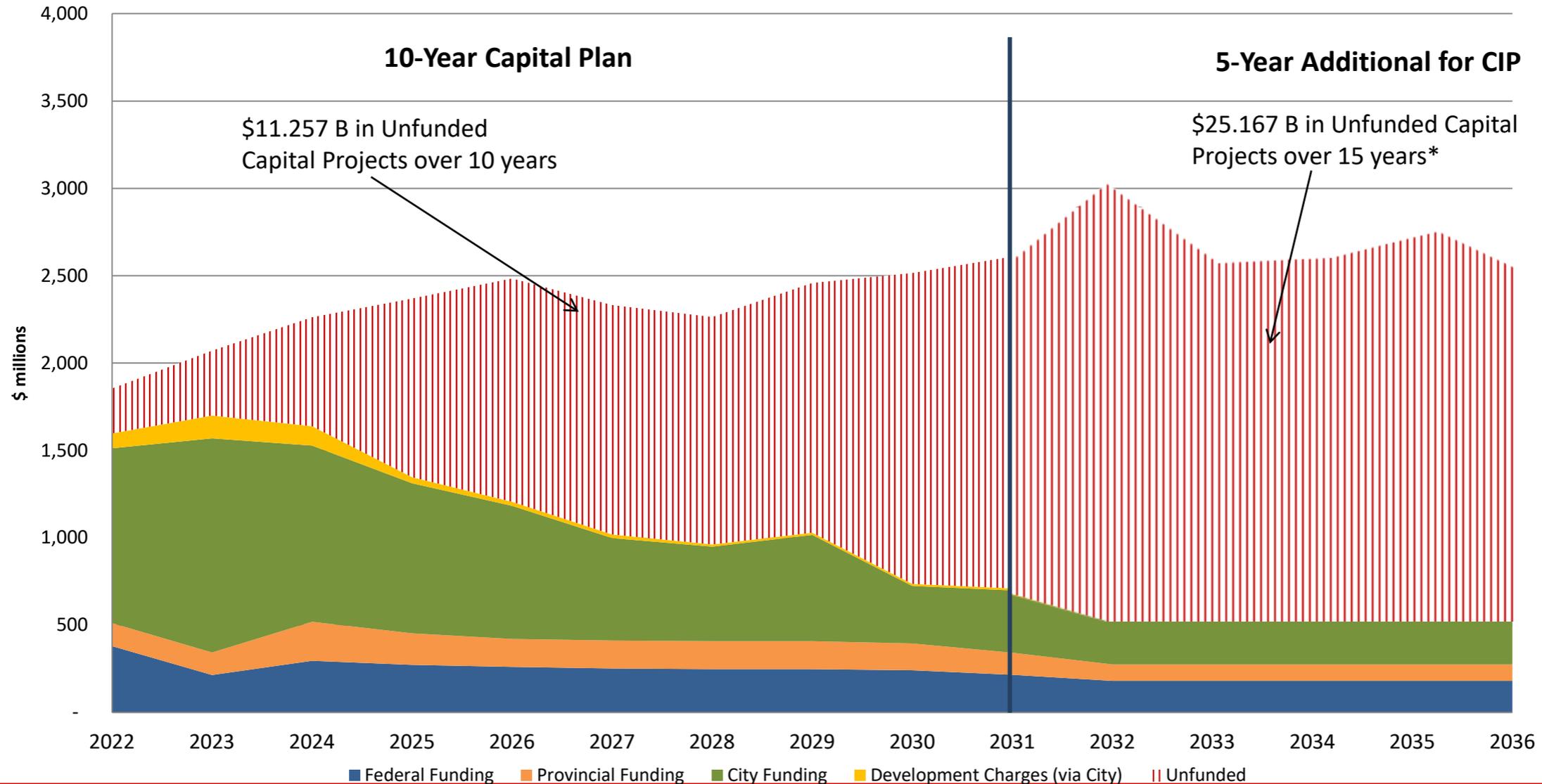
Key Capital Projects (SOGR, Health/Safety and Legislated)



Key Capital Projects (Service Improvement & Growth)



2022-2036 Capital Investment Plan: Funded vs Unfunded



* Assumes no funding past the 10 year window. Assuming \$2.627B in preliminary Post 2031 Funding, the total 15 unfunded reduces to \$22.541B.



Unmet Needs

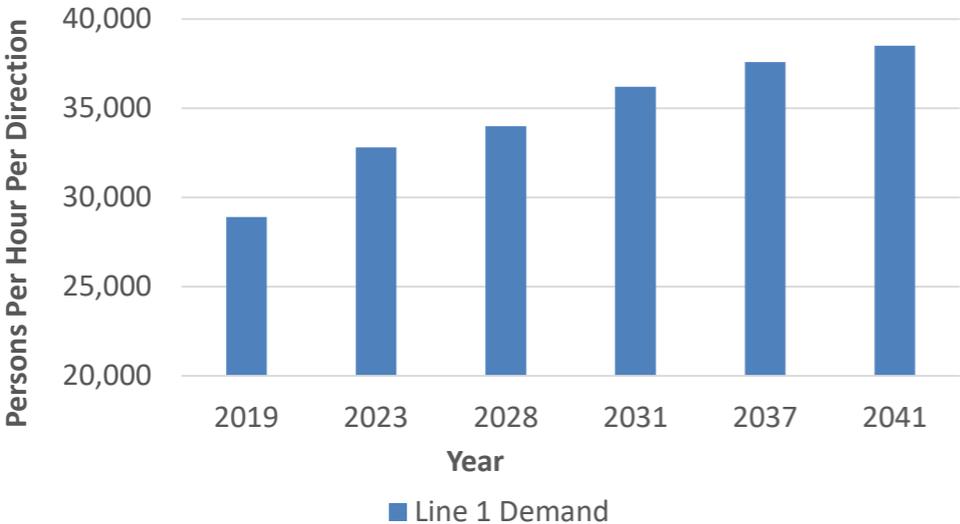
Unmet Needs - Projects Excluded due to Funding Constraints (In \$ Millions)

Project Description	Cash Flow (In \$ Millions)									
	2022	2023	2024	2025	2026	5 Year Total	2027 to 2031	10 year Total	2032 to 2036	15 Year Total
HEALTH & SAFETY/LEGISLATIVE	5.5	32.6	43.1	28.6	19.4	129.3	50.4	179.7	25.4	205.0
FLEET PURCHASE PROGRAMS	168.3	92.4	62.7	314.4	527.0	1,164.7	2,294.7	3,459.4	1,450.8	4,910.3
PURCHASE OF BUSES		8,976	13,815	222,009	248,642	493.4	1,288.2	1,781.6	1,428.7	3,210.3
PURCHASE OF SUBWAY CARS	168,284	83,376	48,874	92,351	278,383	671.3	1,006.5	1,677.8	22.2	1,700.0
OVERHAUL PROGRAMS		36.5	58.3	89.0	175.3	359.2	840.6	1,199.8	701.4	1,901.2
BUS OVERHAUL			33.6	34.3	76.7	144.7	328.0	472.7	307.0	779.7
STREETCAR OVERHAUL			0.3	6.8	16.5	23.6	124.9	148.4	304.1	452.5
SUBWAY OVERHAUL		36.5	24.4	47.9	82.2	191.0	387.7	578.7	90.3	669.0
SERVICE PLANNING		42.6	54.3	40.6	55.0	192.5	187.4	379.9	14.0	393.9
KEY BUILDINGS AND STRUCTURES	3.6	8.5	19.2	109.6	102.4	243.4	2,094.7	2,338.1	4,440.0	6,778.0
Line 1 Capacity Enhancement	3.6	8.5	16.8	106.1	96.3	231.4	1,835.4	2,066.8	1,659.8	3,726.6
Line 2 Capacity Enhancement			2.4	3.5	6.1	12.0	259.2	271.3	2,780.2	3,051.4
STATE OF GOOD REPAIR	79.1	125.7	330.4	377.2	341.0	1,253.4	1,271.5	2,524.9	2,854.4	5,379.2
SERVICE IMPROVEMENTS		11.3	26.5	34.5	39.7	112.1	156.7	268.7	1,198.9	1,467.7
GROWTH		2.5	30.1	29.7	18.3	80.6	825.6	906.2	3,225.8	4,132.0
Total Unmet Needs (Not Included)	256.6	352.2	624.6	1,023.5	1,278.1	3,535.0	7,721.5	11,256.6	13,910.6	25,167.2

- \$4.9 billion is needed to fully fund the balance of fleet purchases:
 - 2,196 e-Buses
 - 674 Wheel-Trans buses
 - 80 subway cars
- \$1.9 billion is required to complete vehicle overhauls
 - Midlife rebuild of the Nova '40 Bus Fleets
 - Midlife restoration and upgrade of the TR Subway cars
- Line 1 requires \$3.7 billion for the following:
 - \$2.1 billion for the acquisition/construction of two facilities
 - \$1.7 billion to complete Line 1
- Line 2 requires a total of \$3.1 billion



Line 1 / Line 2 Ridership Growth - Forecast



Line 1 Capacity and Demand:

Current Capacity: 28,000 PPHPD

Target demand based on:

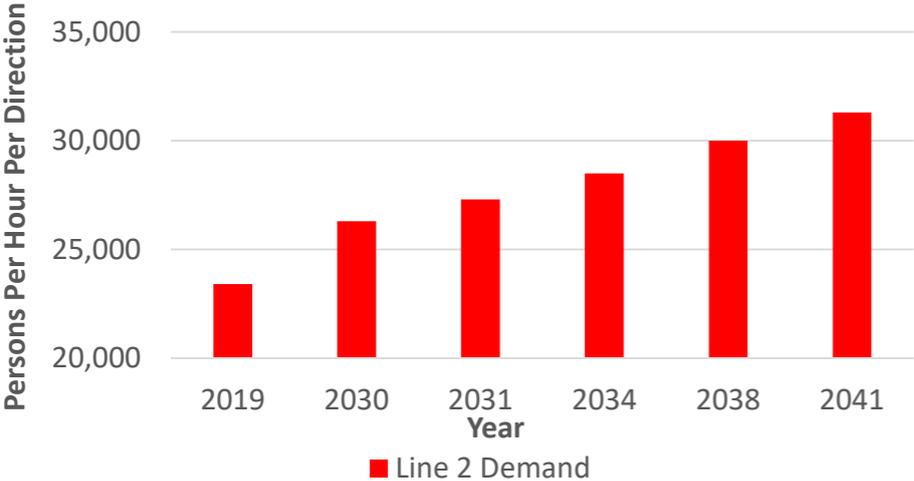
- AM peak demand southbound near Bloor-Yonge
- High growth scenario.

Demand forecast growth:

2019: 28,900 PPHPD

2041: 38,500 PPHPD

Approximately 30% Increase



Line 2 Capacity and Demand:

Current Capacity: 25,600 PPHPD

Target demand based on:

- AM peak demand in both directions eastbound from Bathurst Station and westbound from Donlands Station beginning in 2030.

Demand forecast growth:

2019: 23,400 PPHPD

2041: 31,300 PPHPD

Approximately 30% Increase



Line 1 & Line 2 Capacity Enhancement Program Objectives

- Identify elements/issues constraining capacity on Line 1 and Line 2;
- Identify Line 2 issues constraining the ability to receive and maintain T1 replacement trains planned to arrive between 2026-2032;
- Integrated with the New Subway Train Project and ATC Line 2 project;
- Assess and recommend selected enhancement projects through the development of an implementation strategy to undertake the work required to achieve service capacity targets.



Line 1 Capacity Enhancement Program - Scope

LINE 1 CAPACITY ENHANCEMENT PROGRAM : \$5,076M		
<u>STATIONS</u>	<u>SYSTEMS & INFRASTRUCTURE</u>	<u>TRAINS & YARDS</u>
<ul style="list-style-type: none"> • Station Capacities: \$1,219M <ul style="list-style-type: none"> • King Station Modifications (2029) • St. George Station – Second Platform (2036) • St Andrew Station Modifications (2037) • Station Dwell Times 	<ul style="list-style-type: none"> • Terminal Station Turnback: \$217M <ul style="list-style-type: none"> • New VMC Pocket Track (2041) • Electrical Traction Power: \$151M <ul style="list-style-type: none"> • Upgrade/New Positive & Negative Feeders (2026-2032) • New Negative Reinforcing Cables (2027-2031) • New Traction Power Sub-Station (TPSS) (2031) • Fire Ventilation Requirements: \$265M <ul style="list-style-type: none"> • St. Clair West Station - New fans and Upgrade Vent Shafts (2028) • Lytton ESB - Upgrade/New fans (2031) • Markdale ESB – Upgrade fans (2029) • Guideway Enhancement: \$784M <ul style="list-style-type: none"> • New Siding Track (Bloor-Yonge to Rosedale) (2028) • Extend Centre Track south of Lawrence West (2037) • Extend Davisville Yard North Tail Track (2032) • Retrofit Ballasted to DFF construction for interlockings (2037) • Rehabilitation of open cut ballasted track (2037) 	<ul style="list-style-type: none"> • Additional Train Storage: \$2,042M <ul style="list-style-type: none"> • New Train Maintenance and Storage Facility (2031) • Carhouse Maintenance Capacity: \$371M <ul style="list-style-type: none"> • New Auxiliary Maintenance Facility (2027) • Fleeting of Trains into Service: \$27M <ul style="list-style-type: none"> • North Hostler Track Addition at Wilson Yard



Line 2 Capacity Enhancement Program – Preliminary Scope

LINE 2 CAPACITY ENHANCEMENT PROGRAM: \$3,670M		
<u>STATIONS</u>	<u>SYSTEMS & INFRASTRUCTURE</u>	<u>TRAINS & YARDS</u>
<ul style="list-style-type: none"> • Station Capacities: \$513M <p>Stations Modifications:</p> <ul style="list-style-type: none"> • Keele Station (2037) • Woodbine Station (2038) • Spadina Station (2041) • Jane Station (2041) • Broadview Station (2041) • Bathurst Station (2027) • Ossington Station (2025) 	<ul style="list-style-type: none"> • Electrical Traction Power: \$964M <ul style="list-style-type: none"> • New Traction Power Sub-Stations (TPSS) (2034) • Upgrade Existing TPSS's (2027 – 2034) • Installation of Negative Reinforcement (2027 – 2041) • Installation of Positive and Negative Feeders (2027 – 2041) • Guideway Enhancement: \$1,513M <ul style="list-style-type: none"> • Construction of storage tracks at Warden (2030) • Keele Yard Capacity Increase (2043) • Convert Open Cut Area and Interlockings to Direct Fixation (DF) Islington to Kipling and Victoria Park to Warden (2034-2041) • Convert Key Interlockings to DF (2034-2041) 	<ul style="list-style-type: none"> • Carhouse Maintenance Capacity: \$281M <ul style="list-style-type: none"> • Renovate Greenwood Carhouse (2026) • Renovate Greenwood Shop (2030) • Greenwood Yard Signalling: \$398M <ul style="list-style-type: none"> • Upgrade of Signalling System at Greenwood Yard (2033)





**THANK YOU
QUESTIONS?**